



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,596	11/20/2001	Hideo Akimoto	Y&A-129	8917

21839 7590 07/21/2003

BURNS DOANE SWECKER & MATHIS L L P  
POST OFFICE BOX 1404  
ALEXANDRIA, VA 22313-1404

EXAMINER

KUHNS, ALLAN R

ART UNIT PAPER NUMBER

1732

DATE MAILED: 07/21/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/988,596

Applicant(s)

AKIMOTO ET AL.

Examiner

KUHNS

Group Art Unit

1732

— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE THREE (3) MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- ☐ Responsive to communication(s) filed on \_\_\_\_\_
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- ☒ Claim(s) 1-2 AND 22-31 is/are pending in the application.
- Of the above claim(s) 22-31 is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 1, 12-13 AND 15-21 is/are rejected.
- ☒ Claim(s) 2 AND 14 is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement

## Application Papers

- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- ☐ All ☐ Some\* ☐ None of the:
  - ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_
  - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s) 5
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other \_\_\_\_\_

Office Action Summary

Art Unit: 1732

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-2 and 12-21, drawn to a process of molding a foamed thermoplastic article, classified in class 264, subclass 51.
  - II. Claims 22-31, drawn to a foamed thermoplastic article, classified in class 521, subclass 142.

2. The inventions are distinct, each from the other because:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product structure as claimed, or as imputed from the steps practiced, can be made by another and materially different process such as one in which a constant mold cavity volume is used during primary and secondary injection steps.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art requiring divergent fields of search for the respective inventions, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Robert Mukai (by Victor S. Chang) on March 26, 2003 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-2 and 12-21. Affirmation of this election must be made by applicant in replying to this Office

Art Unit: 1732

action. Claims 22-31 are withdrawn from further consideration by the examiner, 37 CFR

1.142(b), as being drawn to a non-elected invention.

5. The abstract of the disclosure is objected to because it contains more than one paragraph.

Correction is required. See MPEP § 608.01(b).

6. Claims 12-13, 15, 17, 19 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. These claims are indefinite because "the recession of the movable mold element subsequent to the secondary injection step" in claims 12 and 13 lacks antecedent basis within the claims. Clarification is required.

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 16, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hara et al. (5,252,269) in view of Kataoka et al. Hara et al. disclose the basic claimed method for producing a foamed article of a thermoplastic resin composition by causing the composition to foam in a cavity of a mold including (1) a primary injection step in which a part of the composition is injected into the mold cavity defined by a stationary mold element and a movable mold element settled at a position confining the mold cavity to a smaller volume than the total volume of the composition necessary to make up the complete foamed article, (2) a secondary

Art Unit: 1732

injection step subsequent to the primary injection step in which a residual amount of the thermoplastic resin is injected into the mold cavity, while drawing the movable mold back from the settled position to increase the cavity volume (column 2, lines 41-47), and (3) a foaming step subsequent to the secondary injection step in which injection of the thermoplastic resin composition is stopped and the movable mold element is further drawn back to permit the composition to foam (column 2, lines 63-68), wherein the thickness of the mold cavity at the start of injection is in the range of 1-1.5 mm (column 1, lines 47-48) and the pressure imposed is between 5 to 20 MPa (column 2, line 44). Hara et al. appear not to teach an injection time of 1.5 seconds or less, but such is taught for injection molding of thermoplastics by Kataoka et al. At column 14, lines 38-65. It would have been obvious to one of ordinary skill in the art to use the injection speed taught by Kataoka et al. in the method of Hara et al. in order to reduce cycle time and to press the resin against the mold cavity wall while at a temperature above its melting point (column 14, lines 55-58).

Hara et al. teach or suggest a resin as in claims 1'6, 18 and 20.

9. Claims 2 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allan Kuhns whose telephone number is (703) 308-3462. The examiner can normally be reached on Monday to Thursday from 7:00 to 5:30.

Serial Number: 09/988,596

Page 5

Art Unit: 1732

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino, can be reached on (703) 308-3853. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-7718.

Any inquiry of a general nature or relating to the status of this application or proceeding

by e-mail to the examiner at (703) 308-0661.